

REMARKS

The Final Office Action mailed January 6, 2009, and the newly applied prior art have been carefully reviewed. The claims in the application remain as claims 1-16, including presently withdrawn claims 9-12. The claims define patentable subject matter warranting their allowance. Favorable reconsideration, entry of the amendments presented above, and allowance are respectfully urged.

The amendments presented above in the independent claims 1, 9 and 15 are substantially cosmetic; and the purpose of these amendments is to bring out more clearly the fact that the ultrafine chalk, when added to the polyamide for admixture therewith, is uncoated. Thus, please see for example page 8, lines 2-4 of applicants' specification, which states in part:

Ultrafine, uncoated, precipitated calcium carbonate... in the form of cubical particles with an average size of 70nm was used as the mineral.

Applicants again emphasize that the mineral in the present invention is uncoated, contrary to the prior art as pointed out in the last reply (e.g. page 11).

Claims 1-8 and 13-16 have been rejected under the first paragraph of Section 112 on the basis that the recitation "of the molding compound being substantially free

of any other filler" is allegedly prohibited "new matter", and therefore the claims are held to not comply with the written description requirement. This rejection is respectfully traversed.

Applicants strongly but respectfully submit that the person skilled in the art who reads applicants' specification will understand very well that the use of only a single filler is clearly disclosed and is therefore well understood to be part of the invention as originally presented. Thus, please consider the following parts of applicants' specification:

Page 6, line 30 to page 7 line 2:

"The material according to the present intervention is a polyamide molding compound having a partially crystalline polyamide and a **mineral filler, the mineral filler** having an ultrafine grain with an average particle size of at most 100 nm. The concept of polyamide is understood to include homopolyamides, copolyamides, and mixtures of homopolyamides and/or copolyamides." [Emphasis added]

Here, the description is clear that "the filler" of the polyamide molding compound consists of "a filler". Please note that the wording "comprising" is explicitly not used; instead the term "having" is used! Furthermore, the description explicitly and continually speaks of a mineral

filler in the singular. In contrast, the description explicitly uses plural when reference is made to a plurality of different polyamides.

Page 10, lines 14 to 18:

"It is also to be noted that the polyamide molding compounds may also contain typical additives, such as stabilizers (of differing types), flame retardants, auxiliary processing materials, antistatic agents, and further additives, in addition to **the filler** according to the present invention. Thus, the polyamide molding compounds of all the examples cited each also contained a heat stabilizer."

[Emphasis added]

Here, the description explicitly refers to additives, and gives a list (of a plurality!) of examples of additives that may be used. The description is clear that the filler is not to be counted among the additives listed. Thus, while giving a number of additives, the description explicitly and continuingly speaks of the filler in the singular.

Page 10, lines 20 to 23:

"Admixing of **the** mineral filler to the polyamide in a double-screw extruder (compounding) is preferred as the method of producing the polyamide molding compounds. Instead of one

single type of polyamide, the use of a polyamide blend is also possible."

[Emphasis added]

Here again, the description explicitly clarifies the possibility of the use of plural polyamides, namely: a blend of polyamides may be used; however, while referring to a plurality of polyamides which may be used, the description explicitly and continuingly speaks of the filler in the singular.

Applicants' specification is therefore quite clear concerning the use of a single filler. This is all that is necessary, as the law does not require word-for-word support for an amendment. Indeed, the law is clear that it is not prohibited "new matter" to insert wording or make explicit that which is implicit or inherent from the original disclosure. In this case, the support for the criticized added language is at least clearly implicit.

Applicants' claimed subject matter fully conforms with Section 112. There should be no issue concerning a written description and/or new matter, this being an issue of *ipsis verbis*. Please see, for example, MPEP 2163:

While there is no *in haec verba* requirement, newly added claim limitations must be supported by the specification through express, **implicit**, or inherent disclosure.
[emphasis added]

And:

The examiner has the initial burden...of presenting evidence or reasons why a person skilled in the art would not recognize that the written description...provides support for the claims. There is a strong presumption that an adequate written description of the claimed invention is present in the specification as filed,... [citation omitted]

And:

The examiner has the initial burden of presenting evidence or reasoning to explain why persons skilled in the art would not recognize in the original disclosure a description of the invention defined by the claims.
[citation omitted]

And:

An adequate written description of the invention may be shown by any description of sufficient, relevant, identifying characteristics so long as a person skilled in the art would recognize that the inventor had possession of the claimed invention.
[citation omitted]

And MPEP 2163.02

The subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement.

It should be absolutely clear from applicants' specification that applicants' claims fully meet all the requirements of 35

USC 112, first paragraph. Withdrawal of the rejection is in order and is respectfully requested.

Claims 1-8, 13 and 14 have also been rejected under the second paragraph of Section 112. The rejection is respectfully traversed, insofar as it is understood.

Again, those persons skilled in the art reading applicants' specification will understand very well what is meant by the recitation that the filler is uncoated. This means that when the filler is used it has no coating on it. This is quite distinct from the mixture of the polyamide and the filler which results in the filler being embedded in the polyamide matrix.

As noted above, applicants propose amendments to bring out this distinction more clearly. Thus, in the claims as amended above, the terminology "uncoated ultrafine chalk" is defined explicitly as the material which is admixed with the polyamide, although applicants insist (respectfully) that such was already implicitly present in the claims as previously pending.

Withdrawal of the rejection is in order and is respectfully requested.

Claims 1-4, 6 and 13-16 have been rejected as obvious under Section 103 from newly applied Umetsu et al USP 6,121,388 (Umetsu) in view newly applied Dupuis et al USP 6,093,487 (Dupuis). This rejection is respectfully traversed.

Umetsu discloses no more than the acknowledged prior art. Umetsu states that the "filler is not specifically defined, and any of fibrous, tabular, powdery or granular fillers are employable herein." This is simply an almost infinite "basket" or "shot gun" disclosure which gives no guidance whatsoever to the person of ordinary skill in the art. As noted in the rejection itself, the PTO agrees that Umetsu does not disclose the use of calcium carbonate particles having an average particle size of at most 100nm.

Recognizing the aforementioned deficiency of Umetsu, the PTO relies on Dupuis which discloses the use of a composite particulate filler material which comprises an organic polymer core coated with calcium carbonate precipitate. This composite particulate filler has a diameter not exceeding $5\mu\text{m}$ (column 2, lines 13-17), and preferably in the range of $0.1\text{-}0.3\mu\text{m}$ (column 4, line 28). Indeed, Dupuis indicates that it is very difficult to measure the diameter of the polymer core and the size of the chalk particles that cover the core, because the chalk particles at least partially sink into the polymer core (i.e. latex particles; see examples

1-7 and column 4, lines 37-43). Still, the thickness of the shell of calcium carbonate can be as great as 200nm (column 4, line 34), twice as thick as permitted according to the maximum particle size of the calcium carbonate present invention.

It is significant that the polymer core disclosed by Dupuis may be any one of a number of polymers¹, **except that no polyamides are disclosed**. To the person of ordinary skill in the art, this suggests that the filler of Dupuis comprising a polymer core coated with chalk particles may not utilize polyamide as the core material. This in turn suggest an incompatibility between Umetsu and Dupuis, whereby the proposed combination would not have been obvious to the person of ordinary skill in the art at the time the present invention was made.

Very significantly, Dupuis teaches away from the use of plain calcium carbonate, noting column 1, lines 27-29, wherein Dupuis states as follows:

However, it too is known that plastics reinforced with calcium carbonate become much more brittle and their impact strength is weakened.

It is abundantly clear that the person of ordinary skill in the art, reading Dupuis, would understand that one cannot use

¹ The basket or shot gun disclosure is huge, and still does not include any polyamides.

plain calcium carbonate (as the present applicants claim) because the resultant reinforced plastic will become brittle and have reduced impact strength. A consideration of Dupuis "as a whole" reveals that one must use, if one is to follow Dupuis, only the special calcium carbonate coated polymer core material.

Moreover, the Dupuis filler material can in no way be properly considered as consisting essentially of uncoated ultrafine chalk, nor can the chalk be validly deemed to be the only filler present, i.e. the non-polyamide polymer core is also a filler. Therefore, even if the combination were obvious, respectfully denied for the reasons pointed out above, the resultant reconstructed Umetsu would not reach the claimed subject matter.

The rejection states on page 4 that the calcium carbonate (chalk) particles of Dupuis would not be coated. Applicants respectfully but resolutely disagree with the implication of such statement. It may be true that prior to the coating of the polymer core with the chalk particles that the chalk particles are uncoated, but it is not the chalk particles alone which are used (and taught to be used) by Dupuis, but it is the composite particle which is used as the filler in Dupuis. As noted above, Dupuis teaches away from the use of chalk particles by themselves.

Thus, the calcium carbonate particle in Dupuis inevitably becomes coated by the organic polymer core, the chalk particles becoming even partly embedded in the outer peripheral layer or external surface of the polymer core (column 2, lines 21-25; column 4, lines 37-43; examples 1-7). Therefore, contrary to the present invention, before the moment of admixing such composite particles to a polymer as filler, the calcium carbonate particles of Dupuis are already unambiguously coated.

Therefore, and again, even if the proposed combination were obvious, respectfully denied, the resultant reconstructed Umetsu (modified in view of Dupuis) would not reach the recited subject matter.

Applicants' claims define non-obvious subject matter. Withdrawal of the rejection is in order and is respectfully requested.

Claim 5 has been rejected under Section 103 as obvious from Umetsu "as applied to claims 1 and 4 above as evidenced by Salamone". This rejection, insofar as it is understood, is respectfully traversed.

Umetsu has not been applied by itself against claims 1 and 4, but only in combination with Dupuis. Applicants therefore must assume that the rejection is incompletely

stated and that it is intended to based on Umetsu in view of Dupuis and Salamone. If so, then claim 5 is patentable for the same reasons as pointed out above, because claim 5 depends from and incorporates the subject matter of claim 4 (which incorporates claim 1). Salamone has not been cited to make up for the deficiencies pointed out above with respect to the proposed combination of Umetsu in view of Dupuis, and indeed does not do so. Therefore, even if the three-reference combination were obvious (respectfully denied), it would not reach even claims 1 and 4, let alone claim 5.

If Dupuis is intended to not be a part of this rejection, then again Salamone does not make up for the aforementioned deficiencies of Umetsu.

Withdrawal of the rejection is in order and is respectfully requested.

Claims 7 and 8 have been rejected as obvious under Section 103 from Umetsu in view of Dupuis and further in view of Tahara et al USP 6,165,407 (Tahara). This rejection is respectfully traversed.

The rejection starts off with a statement that claims 7 and 8 are product by process claims. Applicants respectfully disagree with respect to claim 7, as the recitation that the blank "is metalized directly" as recited

in claim 7 defines what the product is, not how it is made.

Please see, for example, *In re Steppan et al*, 156 USPQ 143, 147-148 (CCPA), with respect to claim 25; *In re Garnero*, 162 USPQ 221, 223 (CCPA); *In re Moore et al*, 169 USPQ 236, 237, 239 (CCPA 1971).

Applicants agree that claim 8 is in part a product by process claim, i.e. a hybrid product by process claim. Nevertheless, the process language cannot be ignored. Please see *In re Luck et al*, 177 USPQ 523, 525 (CCPA 1973):

..., it is well established that product claims may include process steps to wholly or partially define the claimed product [citation omitted],.... To the extent that these process limitations distinguish the **product** over the prior art, they must be given the same consideration as traditional product characteristics. [Emphasis of court]

Applicants respectfully submit that it cannot be reasonably maintained that the product itself in the case of claim 8 does not have a different character compared to an otherwise similar product in which a metal coating is applied in a different way.

Regardless claims 7 and 8 ultimately depend from and incorporate the subject matter of claim 1. Tahara has not been cited to make up for the aforementioned deficiencies of Umetsu in view of Dupuis, and of course does not do so.

Appln. No. 10/526,767
Amendment dated April 6, 2009
Reply to Office Action dated January 6, 2009

Withdrawal of the rejection is in order and is respectfully requested.

Applicants believe that all issues raised in the Official Action have been addressed above in a manner that should lead to patentability of the present application. Favorable reconsideration, entry of the amendment presented above, and allowance are respectfully requested.

Respectfully submitted,

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